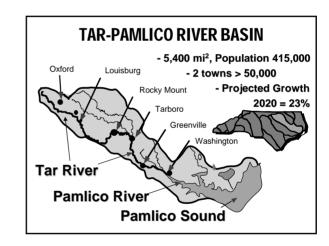
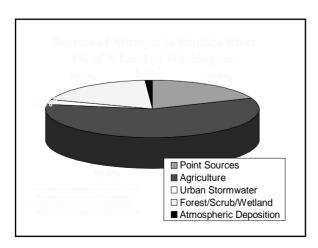


Talk Outline

- Basin and strategy overview
- Accounting
- Progress
- Hindsight

Insights for Mandatory Restoration Strategies Adequate planning time. For: Buy-in on problem & contributors is key Create options with affected parties Inclusive, fair, open process Inclusive, equitable & workable outcomes Performance goals Maximize options Reality check: dual accounting







Tar-Pamlico Nutrient Strategy

Noteworthy Features

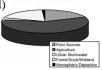
- Dischargers & enviro's originated
- Estuary N, P loading goals & allocations
- Point source caps, offset to ag BMPs
- Innovative cropland regulation
- · Clean-up deadline

Buy-In on Problem?

• Late '80's – yes (highly visible)

>Agreement reflected strong collaboration

Late '90's – no (crisis passed)
 Rules harder to adopt



Planning Stages

- Template (Neuse):
 - 2+ yrs, 2 rounds public input
 - Legislated stakeholder committee
- Tar rulemaking process 3 yrs:
 - Draft rules 8 stakeholder teams
 - Hearing Officer-stakeholder deliberations 1 yr.
 - Legislative arbitration process 6 mo.
- Implementation 1st 2 yrs developed model & accounting

Nonpoint Source Rules

Tar-Pamlico Nutrient Strates

Agriculture

- 30% D N loss in 5 years or else EMC
- No û P
- Local control, local responsibility
- Option: standard BMPs or collective fate
- * "Edad-based" accounting annual reports

2 Fertilizer Management

- Applicators training or plans in 5 years
- Homeowners DWQ education program

Nonpoint Source Rules

Tar-Pamlico Nutrient Strategy

3 Riparian Buffer Protection

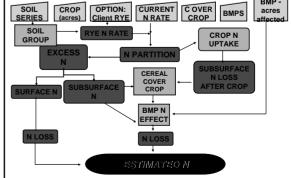
- All land uses
- Existing 50-ft veg'd buffers
- Pre-existing uses continue
- Change in use?
 Must establish buffer

Urban Stormwater

11 key local governments

- New development meets export targets
- Illicit discharge detection/removal
- Education programs & seek retrofits

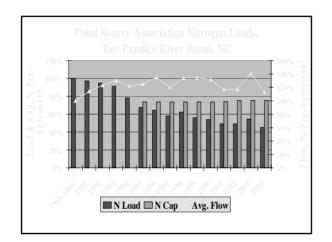
Agricultural Nitrogen Loss Accounting Tool

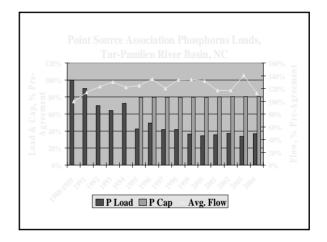


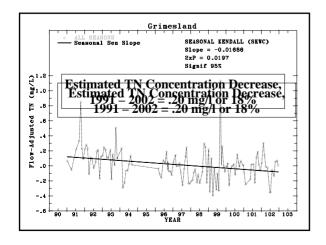


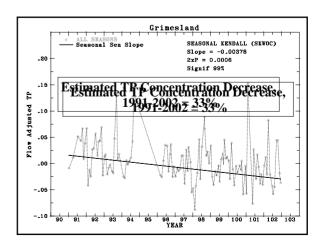
Agricultural N Loss from 1991	
Wall and the second	2003 2004
N Rate Decreases	23.0 22.5
Crop Shifts	11.6 11.8
BMPs	5.1 6.
Crop Acreage Reduction	7.1
Total N Loss Reduction	47% 47%

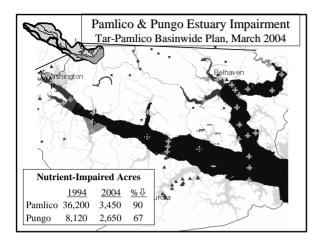
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- By		Checked By										
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blue boses. NOTE Compare the	Total Catchment Acresgo	for the Development (Small table) to th	e value you establ	ished in th				Pink@50*15		PARTOR OF	
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		_				Codewal I	0.50	0.00	0.00			
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Area taken upby BMP		1.96		0.15		TOTAL PORTIENTAL OPMENT	0.00	0.00	0.00			











Insights for Mandatory Restoration Strategies

- Adequate planning time. For:
- Buy-in on problem & contributors
- · Create options with affected parties
- Inclusive, fair, open process
- Inclusive, equitable & workable outcomes
 Performance goals
 - Maximize options
- · Reality check: dual accounting

More Information

Tar-Pamlico Nutrient Strategy http://h2o.enr.state.nc.us/nps/tarpam.htm

Neuse Nutrient Strategy http://h2o.enr.state.nc.us/nps/Neuse_NSW_Rules.htm

Draft Jordan Lake Nutrient Strategy Report to October 2005 Water Quality Committee: http://h2o.enr.state.nc.us/admin/

Stakeholder Process, More Documents: http://www.tjcog.dst.nc.us/jorlak/jlsp.htm

DWQ staff contact: Rich Gannon 919-733-5083 ext. 356, rich.gannon@ncmail.net

N Cost-Effectiveness Comparison

Practice	\$/lb Reduced (30-Yr. Life Equiv.)				
Agriculture					
Water Control Structure	\$1.20				
Nutrient Management	\$7 - \$9				
Vegetated Filter Strip	\$7 - \$8				
Conservation Tillage	\$20 - \$80				
Riparian Wetland Restoration	\$11 - \$20				
Stormwater Wet Det. / Bioret.	\$57 - \$86				